

Massachusetts Department of Public Health

West Nile Virus (WNV)

What is West Nile virus?

West Nile virus (WNV) is a virus carried by mosquitos that can cause illness ranging from a mild fever to more serious disease like encephalitis (swelling of the brain) or meningitis (inflammation of the covering of the brain and spinal cord). It was first identified in the United States in 1999.

How is West Nile virus spread?

WNV is most commonly spread to people through the bite of an infected mosquito. Less commonly, it can be spread through blood transfusions or organ transplants. All donated blood in the United States is tested for WNV. In addition, there are rare reports of WNV being passed from infected pregnant or breastfeeding people to their babies. Since these reports are rare, the health effects on unborn or breastfeeding babies are unclear and still being studied. People do not become infected by having direct contact with other infected people, birds or animals.

Why don't I need to report dead birds anymore?

From 2000 to 2008, MDPH collected reports and ran tests for WNV on dead birds in Massachusetts as one of several ways to monitor WNV activity across the state. This method has become less useful for finding the virus. Many other states have discontinued dead bird reporting and testing. Mosquito collection and testing gives the most reliable indication of current WNV activity and this is where monitoring activities will continue to be focused.

Dead birds are no longer being tested for WNV and do not need to be reported to MDPH. Dead birds can be safely disposed of in the trash. Using gloves, a shovel or plastic bags covering your hands, the dead bird should be double-bagged and placed in the trash. You should then wash your hands.



What are the symptoms of West Nile virus?

Most people who are infected with WNV (80%) will have no symptoms. A smaller number of people who become infected (20%) will have symptoms such as fever, headache, body aches, nausea, vomiting and sometimes swollen lymph glands. They may also develop a rash. Less than 1% will develop severe illness including encephalitis or meningitis. Symptoms of severe illness can include high fever, headache, neck stiffness, confusion, tremors, seizures/convulsions, muscle weakness, vision loss, numbness and paralysis. Persons older than 50 years of age have a higher risk of developing severe illness.

How soon do symptoms of West Nile virus appear?

Usually 2-6 days (but up to 30 days) after being bitten by an infected mosquito. It can take longer in immunocompromised individuals.

How common is West Nile virus in Massachusetts?

Because most people who are exposed to WNV have no symptoms, it is difficult to know exactly how many people have been infected. People who develop severe illness with WNV are most often reported. Between 2001 and 2025, 273 people were reported with WNV infection in Massachusetts. Twenty of these people died. Cases have been identified from around the state.

How is West Nile virus diagnosed?

Serum (a component of blood) or cerebrospinal fluid (CSF) can be collected and tested for antibodies against the virus or for viral genetic material.

How is West Nile virus treated?

There is no specific treatment once infection with WNV has occurred. Treatment consists of supportive care, rest, and fluids to prevent dehydration.

How can you prevent West Nile Virus?

Preventing mosquito bites is the best way to prevent WNV infection. Here are some things you can do to reduce your chances of being bitten:

- Use EPA registered mosquito repellents.



- Products with DEET may be used on skin. Repellents containing DEET should not be used on children less than 2 months of age and should be used in concentrations no higher than 30% on older children.
- Use **permethrin** products on items such as clothing, shoes, bed nets and camping gear. Permethrin should not be applied to skin.
- Other repellents, such as picaridin, oil of lemon eucalyptus and IR 3535, have also been found to provide protection against mosquitos. More information on choosing a repellent and how to use repellents safely is included on the DPH Public Health Fact Sheet on Mosquito Repellents at mass.gov/DPH/Mosquito.
 - o Oil of lemon eucalyptus should not be used on children under three years of age.
- When outdoors, wear long pants, a long-sleeved shirt and socks. This will help keep mosquitos away from your skin.
- Schedule outdoor events to avoid the hours between dusk and dawn, when mosquitoes are most active.
- Keep mosquitoes out of your house by repairing any holes in your screens and making sure they are tightly attached to all your doors and windows.
- Remove areas of standing water around your home:
 - o Look around outside your house for containers and other things that might collect water and turn them over, regularly empty them, or dispose of them.
 - o Drill holes in the bottom of recycling containers that are left outdoors so that water can drain out.
 - o Clean clogged roof gutters; remove leaves and debris that may prevent drainage of rainwater.
 - o Turn over plastic wading pools and wheelbarrows when not in use.
 - o Change the water in birdbaths every few days; aerate ornamental ponds or stock them with fish.
 - o Keep swimming pools clean and properly chlorinated; remove standing water from pool covers.
 - o Use landscaping to eliminate standing water that collects on your property.



Where can I get more information on West Nile virus?

- **For questions about your own health**, contact your healthcare provider.
- **For questions about diseases spread by mosquitos**, contact DPH at (617) 983-6800 or online at mass.gov/DPH/mosquito. You may also contact your local Board of Health.
 - o [Mass.gov | Mosquito-borne Diseases](https://mass.gov/mosquito-borne-diseases)
 - o [Mass.gov | Arbovirus Dashboard](https://mass.gov/arbovirus)
- **Health effects of pesticides**, DPH, Bureau of Climate and Environmental Health at (617) 624-5757.
- **Mosquito control in your city or town**: Mosquito control in Massachusetts is conducted through eleven mosquito control districts. The State Reclamation and Mosquito Control Board (SRMCB) oversees all nine districts. Contact information for each district can be found online at <https://www.mass.gov/state-reclamation-and-mosquito-control-board-srmcb>. You may also contact the SRMCB within the Massachusetts Department of Agricultural Resources at 617-626-1700 or your local board of health.
- [CDC.gov | West Nile Virus](https://cdc.gov/west-nile-virus)

